

## CLAIMS

1. A method for interconnecting elements of a network using an LDT  
5 interface in a defined network topology, comprising the steps of:

interconnecting a plurality of integrated circuits in a multi-dimensional  
network configuration using an LDT interface;

wherein at least one of said integrated circuits has more than two LDT  
interfaces; and

10 wherein said integrated circuits are interconnected without requiring an  
LDT switch.

2. The method of Claim 1, wherein each integrated circuit comprises at least  
four LDT interfaces.

15 3. The method of Claim 1, further comprising the step of:

assembling integrated circuits having four LDT interfaces into a two-  
dimensional mesh.

20 4. The method of Claim 1, further comprising the step of:

linking integrated circuits having four LDT interfaces into a PLEX  
topology.

5. A network comprised of elements using an LDT interface in a defined  
25 network topology, comprising:

a plurality of integrated circuits connected in a multi-dimensional network configuration using an LDT interface;

wherein at least one of said integrated circuits has more than two LDT interfaces; and

5            wherein said integrated circuits are interconnected without requiring an LDT switch.

6. The network of Claim 5, wherein each integrated circuit comprises at least four LDT interfaces.

10

7. The network of Claim 5, wherein said integrated circuits each comprise four LDT interfaces.

8. The network of Claim 7, wherein said integrated circuits are assembled  
15            into a two-dimensional mesh.

9. The network of Claim 7, wherein said integrated circuits are linked into a PLEX topology.